

Presentation to



Jet Propulsion Laboratory
California Institute of Technology



Advanced Integrated Systems

Presented by

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Commercial in Confidence

Company Overview



- AIS formed by key personnel previously at Delco in Goleta, California (experience on Titan/HRG/etc.)
- AIS is an LLC comprised of employee owners
- AIS corporate headquarters is in Nevada, USA with operations in Santa Barbara, CA.
- Small Disadvantaged Business
- AIS has a SECRET facility clearance from the Defense Security Services
- 21 full-time system, software, electronics and mechanical engineers
- 20+ average years of experience per engineer
- 9 personnel currently possess active secret clearances

- Design and simulation of product solutions to minimize stress/power consumption and optimize mass/volume
- Structural, dynamic and thermal analyses
- Materials analysis and support
- A partial list of programs includes:
 - ⦿ U.S. Army Future Combat System (FCS)
 - ⦿ U.S. Marine Corps Light Armored Vehicle Command and Control (LAV-C2)
 - ⦿ U.S. Marine Corps VHP Hunter (Ground Electronics Counter Measure)
 - ⦿ U.S. Navy Gun Control Unit (GCU)
 - ⦿ U.S. Air Force F-16 (Digital Quadrant Receiver thermal analysis)
 - ⦿ U.S. Navy Chock upgrades

Full Service Company



- Systems Engineering expertise
- Mechanical Engineering expertise
- Materials and Process Engineering expertise
- Electronics and Electrical Engineering expertise
- Software Engineering expertise
- Test Equipment expertise
- Web site: www.ais-usa.us

- System and subsystem requirements definition, analysis, allocation, and verification
- Control algorithms for system/platform stabilization
- Trajectory analysis and IV&V
- Electro-mechanical drive systems, sensors, sights, displays, navigation
- Modeling and simulation of components and complete systems for system performance analysis
- Definition, build and optimization for hardware-in-the-loop simulations
- Field test, performance analysis, and verification
- Tools: MatLab/Simulink

- Thermal and structural analysis to optimize designs
- Modular construction to reduce cost
- Drive system design and integration - direct, geared, rack and pinion, and actuation systems
- Light-weight armor design
- Weldment designs utilizing aluminum and titanium
- CAD and analysis tools include:
 - ◉ SolidWorks
 - ◉ COSMOS FloWorks
 - ◉ COSMOS Motion
 - ◉ COSMOS Works
 - ◉ GeoStar
 - ◉ Pro Engineer

- Materials evaluations (Residual Gas Analysis (RGA), materials outgassing analysis, electrical/thermal insulations, lubricants, adhesives, polymers, coatings)
- Electro-chemical materials evaluation (materials migration in a vacuum)
- MIL spec. circuit card assembly, cleaning, conformal coating
- Soldering technology (including lead-free - RoHS)
- Materials specifications and source control documentation
- Hazardous materials management/oversight

Next Step

- Understand the JPL organizational contacts to work through
- Identify JPL opportunities/needs where AIS expertise can be applied
- Assess how AIS experience can be leveraged to solve JPL mission issues (Micro-meteorite protection)
- Other?